

$x(6+13)$
 1. $6x + 13x$
 $19x$
 2. $39g$
 3. $-8k$
 4. $11b - 6$
 5. $-3m^2$ $m^2(4-7)$
 6. $7x^2$

(Must have like-terms to add or subtract) p. 494

Apr 20-9:47 AM

$(a+b)^2$
 $(a+b)(a+b)$
 $a^2 + 2ab + b^2$
 $(a+b)(a-b)$
 $a^2 - b^2$

May 5-10:04 AM

$49x^2 - 36$
 $(7x-6)(7x+6)$

May 5-10:05 AM

monomial
 12 y $-5x^2y$ $\frac{c}{3}$
 degree - the sum of the exponents of its variables
 polynomial
 $3x^4 + 5x^2 - 7x + 1$
 4th degree polynomial

Apr 20-9:53 AM

QC 2a) $6x^2 + 7 - 9x^4$
 $-9x^4 + 6x^2 + 7$
 fourth degree trinomial
 2b) $3y - 4y^3$
 $-y^3 + 3y - 4$
 cubic trinomial
 degree # of terms
 2c) $8 + 7n - 11n$ linear binomial
 $-4n + 8$

Apr 20-9:58 AM

Add Polynomials
 $(3x^2 + 2x + 3) + (4x^2 + 7x - 9)$
 $(3x^2 + 2x + 3)$
 $+ (4x^2 + 7x - 9)$
 $7x^2 + 9x - 6$

Apr 20-10:02 AM

Subtraction

$$2x = x + x$$

$$x^2 = x \cdot x$$

$$(5x^3 + 2x - 2) - (2x^3 + 4x^2 - 6)$$

$$\begin{array}{r} (5x^3 + 2x - 2) \\ - (2x^3 + 4x^2 - 6) \\ \hline 3x^3 - 4x^2 + 2x + 4 \end{array}$$

Apr 20-10:04 AM

p. 496

QC 4

$$1. (v^3 + 6v^2 - v) - (9v^3 - 7v^2 + 3v)$$

$$2. (30d^3 - 29d^2 - 3d) - (2d^3 + d^2)$$

$$3. (4x^2 + 5x + 1) - (6x^2 + x + 8)$$

Apr 20-10:04 AM

p. 500

Area Model for Distributive Property



$$A = 3(2+4) = 3(6)$$

$$A = (3 \times 2) + (3 \times 4)$$

Apr 20-10:17 AM

$$-4y^2(5y^4 - 3y^2 + 2)$$

$$\begin{array}{c} 5y^4 - 3y^2 + 2 \\ -4y^2 \begin{array}{|c|c|c|} \hline -20y^6 & 12y^4 & -8y^2 \\ \hline \end{array} \end{array}$$

Apr 20-10:20 AM

QC #1 p. 500

$$1. 4b(5b^2 + b + 6) \quad 2. -7h(3h^2 - 8h - 1)$$

$$3. 2x(x^2 - 6x + 5)$$

Hw p. 497 # 35-40

p. 502 # 27-33

Steno

Apr 20-10:24 AM

p. 497

p. 502

$$35. 18y^2 + 5y$$

27. .

$$36. -6x^3 + 3x^2 - 4$$

$$37. -7y^3 + 6z^2 + 2z - 5$$

$$38. 7a^3 + 11a^2 - 4a - 4$$

$$39. 28c - 16$$

$$40. 39x - 7$$

Apr 21-9:45 AM

7. 502

27. $-3a(4a^2 - 5a + 9)$
 $-12a^3 + 15a^2 - 27a$

28. $14p^5 - 35p^3$

29. $-60c^3 + 36c^2 - 48c$


30. $y(y+3) - 5y(y-c)$
 $y^2 + 3y - 5y^2 + 10cy$
 $-4y^2 + 13y$

Apr 21-9:50 AM

31. $x^2 + x$

32. $12x^3 - 23x^2$

$3x^2 + 4x^2$
 $(3+4)x^2$



$A = \text{Area Circle} - \text{Area Square}$

$A = \pi r^2 - s^2$

$A = \pi(4x)^2 - (2x)^2$
 $16\pi x^2 - (4x^2)$
 $(16\pi - 4)x^2$

Apr 21-9:55 AM

a. Write in standard form

b. Name the polynomial by its degree and number of terms.

$y = x^2$

1. $-4 + 3x - 2x^2$ quadratic trinomial
 $-2x^2 + 3x - 4$

2. $(2x^4 + 3x - 4) + (-3x + 4 + x^2)$
 $2x^4 + x^2$ 4th degree binomial

Simplify

3. $-2x^2(-3x^2 + 2) - 3x^2(x^2 - 1)$

Apr 21-10:02 AM

Simplify

3. $-2x^2(-3x^2 + 2) - 3x^2(x^2 - 1)$
 $6x^4 - 4x^2 - 3x^4 + 3x^2$
 $3x^4 - x^2$

Apr 22-9:49 AM

List Factors

27

$\frac{1}{3} \quad \frac{27}{9}$

$1, 3, 9, 27$

27
 $\swarrow \searrow$
 $3 \quad 9$
 $\swarrow \searrow$
 $3 \quad 3$

Prime Factorization 3^3

Apr 21-10:13 AM

7. 501

GCF - Greatest Common Factor

$4x^3 + 12x^2 - 8x$

$4x^3$ $2 \cdot 2 \cdot x \cdot x \cdot x$ $(4x \cdot x^2)$
 $12x^2$ $2 \cdot 2 \cdot 3 \cdot x \cdot x$ $(4x \cdot 3x)$
 $8x$ $2 \cdot 2 \cdot 2 \cdot x$ $(4x \cdot 2)$

GCF = $2^2 \cdot x = 4x$

Apr 21-10:15 AM

$$-6g^4 - 12g^3 + 15g^2$$

$2 \cdot 3 \cdot g^4 \quad 2^2 \cdot 3g^3 \quad 3 \cdot 5g^2$

$$\boxed{3g^2}$$

QC #2 a, b, c

a. $5n^5 + 10n^3$ $5n^3$
b. $3x^2 - 18$ 3
c. $4b^3 - 2b^2 - 6b$ $2b$

Apr 21-10:20 AM

$$4x^3 - 12x^2 + 16x$$

GCF = $4x$

$$4x(x^2 - 3x + 4) \checkmark$$

is there a common factor? no

Apr 21-10:23 AM

QC #3 Factor out a monomial.

a. $8x^2 - 12x$ $4x$
 $4x(2x - 3)$

b. $5d^3 + 10d$ $5d$
 $5d(d^2 + 2)$

c. $6m^3 - 12m^2 - 24m$ $6m$
 $6m(m^2 - 2m - 4)$

p. 502 #19-24 Lined due Thurs.
p. 498 #53, 54, 56-62

Apr 21-10:25 AM

Square Number

•	::	:::	::::	
1	4	9	16	25
1^2	2^2	3^2	4^2	

n^{th} square number
 $n^2 \quad 8^2 = 64$

Apr 22-9:52 AM

Triangular Numbers

n	1	2	3	4	5
	•	••	•••	••••	•••••
	1	3	6	10	15

n^{th} triangular number

•	••	•••	••••	•••••
••	•••	••••	•••••	

Apr 22-9:53 AM

n	3	4	5	6
0	0	2	5	9

of vertices

$$\frac{n}{2}(n-3)$$

$$\frac{n(n-3)}{2}$$

Apr 22-10:08 AM

503 #44 a) $V = (4x)^3$
 $V = 64x^3$

b) $V = \pi r^2 h$
 $V = 48\pi s^2$

c) $V = 64x^3 - 48\pi s^2$

d) $16x^2(4x - 3\pi)$

e) $182,071 \text{ in}^3$

Diagram of a cylinder with radius 2 and height 48.

Factorization of 64: 2^6 (2, 2, 2, 2, 2, 2)

Factorization of 48: $2^4 \cdot 3$ (2, 2, 2, 2, 3)

Apr 22-10:19 AM

FOIL

$(x^2 + 3)(4x + 8)$

	$4x$	8
x^2	$4x^3$	$8x^2$
3	$12x$	24

$4x^3 + 8x^2 + 12x + 24$

$(x^2 + 8)(2x^2 - 3x + 6)$

Apr 22-10:28 AM

FOIL

inside

QC #2 p. 506

a. $(3x+4)(2x+5)$
 $6x^2 + 15x + 8x + 20$
 $6x^2 + 23x + 20$

b. $(3x-4)(2x+5)$
 $6x^2 + 15x - 8x - 20$
 $6x^2 + 7x - 20$

Apr 22-10:34 AM

c. $(3x+4)(2x-5)$
 $6x^2 - 7x - 20$

d. $(3x-4)(2x-5)$
 $6x^2 - 23x + 20$

QC #3

a. $25x^2 + 28x + 16$

b. $(x+1)(2x-2) - (x-2)(x)$
 $2x^2 - 2 - [x^2 - 2x]$
 $x^2 + 2x - 2$

Apr 22-10:36 AM

p. 508 #30-38, 42-46

Due Friday. Steno -

42. A Triangle - A Rectangle

[] - []

Apr 22-10:39 AM

p. 510

★ 1. $9x^2 + 10x + 1$

2. $6b^2 - 13b + 9$

3. $36w^2 - 11w$

4. $-48k^3 + 42k^2$

5. $x^2 - 2x - 15$

6. $12m^5 + 2m^4 - 30m^2 - 5m$

Apr 23-9:46 AM

$$7. 4g^4 + 8g^3 + 7g^2 + 32g - 36$$

$$8. 2(6y^2 - 5)$$

$$9. 5x(x^5 + 5x^2 - 2)$$

$$10. 9w^2(2w^2 + 3w + 4)$$

Apr 23-10:01 AM

Square of a binomial

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$(a-b)^2 = a^2 - 2ab + b^2$$

$$(x+2)^2 = x^2 + 4x + 4$$

$$(x+2)(x+2) = x^2 + \underbrace{2x+2x}_{4x} + 4$$

Apr 23-10:06 AM

QC #1 p. 513 $(5y)^2 = 25y^2$

a. $(t+6)^2$
 $t^2 + 12t + 36$

b. $(5y+1)^2$
 $25y^2 + 10y + 1$

c. $(7m-2p)^2$
 $49m^2 - 28mp + 4p^2$

d. $(9c-8)^2$
 $81c^2 - 144c + 64$
~~224~~

Apr 23-10:10 AM

Difference of Two Squares

$$(a+b)(a-b) = a^2 - b^2$$

$$(t^2+4)(t^2-4) = t^4 - 16$$

QC #4 a. $d^2 - 121$ b. $c^4 - 64$
c. $81x^6 - 10^8$

Apr 23-10:16 AM

$$\boxed{82 \cdot 78}$$

$$(80+2)(80-2)$$

$$6400 - 4 = \boxed{6396}$$

a. $18 \cdot 22$

b. $19 \cdot 21$

$$(20-2)(20+2)$$

$$(20-1)(20+1)$$

$$400 - 4 = \boxed{396}$$

$$\frac{400-1}{\boxed{399}}$$

Apr 23-10:21 AM

a. $59 \cdot 61$

$$(60-1)(60+1)$$

$$3600 - 1$$

$$\boxed{3599}$$

d. $87 \cdot 93$

$$\boxed{8091}$$

Due Monday
Tuesday

r. 515

#26 - 31

44 - 52

Line 1

$$8100 - 9$$

Apr 23-10:24 AM

$$39. (8k+4h)^2 \quad 64k^2 + 64kh + 16h^2$$

$$38. (y^5 - 9x^4)^2 \quad y^{10} - 18x^4y^5 + 81x^8 - 9x^4y^5$$

$$30. p^2 + p - 56 \quad 37. 9y^4 - 9y^3 - 7y^2 - 2y - 2$$

$$31. p^2 + p - 56 \quad 38. 48g^3 - 16g^2 + 4g - 4$$

$$32. p^3 + 8p^2 - 7p - 56$$

$$33. 25c^2 - 40c - 9$$

$$34. m^3 + 11m^2 + 3m + 33$$

$$35. 15k^4 + 3k^3 + 10k^2 + 2k$$

$$36. 24h^3 + 8h^2 + 17h - 3$$

Apr 23-10:27 AM

Apr 24-9:51 AM

$$42. 7.5x + 15$$

$$43. 1.5x^2 + 2.5x - 1$$

$$44. \quad \begin{array}{l} (x+1)(x+1) \\ \parallel (10+1)(10+1) \end{array}$$

$$i. \quad \begin{array}{l} (x+1)(x+1) \\ x^2 + 2x + 1 \end{array}, \quad 121$$

$$ii. \quad \begin{array}{l} (x+1)(x+2) \\ x^2 + 3x + 2 \end{array}, \quad 11 \cdot 12$$

$$iii. \quad \begin{array}{l} (x+1)(x+3) \\ x^2 + 4x + 3 \end{array}, \quad 11 \cdot 13$$

$$45. m^3 + 15m^2 + 56m$$

$$46. \quad \begin{array}{l} \text{D} \quad x, x+1, x+2 \\ \downarrow \\ \boxed{x, x+2, x+4} \end{array}$$

$$\begin{array}{l} (m+2)(m+4) \\ \boxed{m^2 + 6m + 8} \end{array} \quad m$$

Apr 24-9:54 AM

Apr 24-10:00 AM

try this
you kids!

the product of
3 consecutive odd
numbers.

$$\rightarrow \begin{array}{l} n(n+2)(n+4) \\ (n^2+2n)(n+4) \\ n^3 + 6n^2 + 8n \end{array}$$

Apr 24-10:04 AM

11 problems

$$\begin{array}{cccc} G & A & R & F \\ \frac{34}{44} & \frac{28}{33} & \boxed{\frac{30}{33}} & \frac{43}{55} \end{array}$$

Apr 24-10:08 AM

575. $\frac{(x+1)^2}{(x+1)(x+1)} = \frac{x^2+2x+1}{(x+1)(x+1)}$

10) $61^2 = (60+1)^2$
 $3600 + 120 + 1$
 3721

11) $99^2 = (100-1)^2$
 $10,000 - 200 + 1$
 9801

Apr 24-10:10 AM

p. 515
 12) $48^2 = (50-2)^2$
 $2500 - 200 + 4$
 2304

$43^2 = (40+3)^2$
 $1600 + 9 + 240$
 1849

Apr 24-10:15 AM

$(302)^2$
 GARF
 $(300+2)^2$
 $90,000 + 1,200 + 4$
 $91,204$

302×302

Apr 24-10:19 AM

499^2
 $(500-1)^2$
 $250,000 - 1,000 + 1$
 $249,000 + 1$
 $249,001$

✓✓✓✓
 GARF

Apr 24-10:22 AM

$(899)^2$
 $(900-1)^2$
 $810,000 - 1,800 + 1$
 $808,201$

X ✓ ✓ X
 GARF

Apr 24-10:25 AM

24

1	24
2	12
3	8
4	6

2. $\frac{12}{12}$
 1 12
 2 6
 3 4

3. $\frac{54}{12}$
 1 24
 2 27
 3 18
 4 9

4. $\frac{15}{15}$
 1 15
 2 5

5. $\frac{36}{36}$
 1 36
 2 18
 3 12
 4 9

56
 1 56
 2 28
 3 14
 4 8

Apr 28-9:48 AM

7. $\frac{64}{1 \quad 64}$
 $\frac{32}{2 \quad 32}$
 $\frac{16}{4 \quad 16}$
 $\frac{8}{8}$
 60

8. $\frac{96}{1 \quad 96}$
 $\frac{48}{2 \quad 48}$
 $\frac{32}{3 \quad 32}$
 $\frac{24}{4 \quad 24}$
 $\frac{16}{6 \quad 16}$
 $\frac{12}{8 \quad 12}$

Apr 28-9:51 AM

$(a+b)^2 = a^2 + 2ab + b^2$
 $(a+b)(a-b) = a^2 - b^2$
 $(a+1)^2 \neq a^2 + 1$
 $a^2 + 2a + 1$

Apr 28-9:54 AM

~~$(a+b)(a)$~~
 $x^2 + 6x + c$
 $(x+m)(x+n)$
 $x^2 + (m+n)x + mn$
 ex. $x^2 + 7x + 12$
 $\frac{1 \quad 12}{2 \quad 6}{3 \quad 4}$
 $(x+3)(x+4)$
 factoring trinomial
 $x^2 + 4x + 3x + 12$
 $x^2 + 7x + 12$

Apr 28-9:56 AM

$x^2 + 8x + 15$
 $\frac{1 \quad 15}{3 \quad 5}$
 $(x+3)(x+5)$
 $(x+3)(x+5)$
 QC $\frac{5 \quad 9}{8^2 + 7g + 10}$
 a. $(g+2)(g+5)$
 b. $\frac{20 \quad 20}{10^2 + 21w + 20}$
 $(w+1)(w+20)$

Apr 28-10:01 AM

c. $a^2 + 13a + 30$
 $(a+10)(a+3)$
 GARF
 $\frac{9}{5} \quad \frac{11}{12} \quad \frac{12}{5} \quad \frac{15}{5}$

Apr 28-10:03 AM

$(x-m)(x-n)$
 $x^2 - mx - nx + mn$
 $x^2 - (m+n)x + mn$
 $d^2 - 17d + 42$
 $(d-3)(d-14)$
 $\frac{-1 \quad -42}{-2 \quad -21}{-3 \quad -14}{-6 \quad -7}$

Apr 28-10:07 AM

$$\begin{array}{r}
 c^2 - 9c + 20 \\
 \underline{-1 \quad -20} \\
 -2 \quad -10 \\
 -4 \quad -5
 \end{array}$$

$(c-4)(c-5)$ $(c-4)(c-5)$

$c^2 - 3c - 4c + 20$
 $c^2 - 9c + 20 \quad \checkmark$

Apr 28-10:13 AM

QC #2

$$\begin{array}{l}
 k^2 - 10k + 25 \\
 (k-5)(k-5)
 \end{array}
 \quad
 \begin{array}{l}
 x^2 - 11x + 18 \\
 (x-2)(x-9)
 \end{array}$$

$$\begin{array}{l}
 g^2 - 15g + 36 \\
 (g-12)(g-3)
 \end{array}$$

GARF

$\frac{12}{5}$	$\frac{12}{5}$	$\frac{12}{5}$	$\frac{14}{5}$
5	5	5	5

Apr 28-10:15 AM

Apr 28-10:18 AM

$$\begin{array}{r}
 x^2 + bx - c \\
 m^2 + 6m - 27 \\
 \underline{-1 \quad 27} \\
 1 \quad -27 \\
 -3 \quad 9 \\
 3 \quad -9
 \end{array}$$

$(m-3)(m+9)$ $(m-3)(m+9)$

$m^2 + 9m - 3m - 27$
 $m^2 + 6m - 27 \quad \checkmark$

Apr 28-10:18 AM

$$\begin{array}{r}
 p^2 - 3p - 18 \\
 \underline{-1 \quad 18} \\
 1 \quad -18 \\
 -2 \quad 9 \\
 +2 \quad -9 \\
 -3 \quad 6 \\
 3 \quad -6
 \end{array}$$

$(p+3)(p-6)$

$p^2 - 6p + 3p - 18$
 $p^2 - 3p - 18 \quad \checkmark$

Apr 28-10:21 AM

QC #3

$$\begin{array}{l}
 m^2 + 8m - 20 \\
 (m+10)(m-2)
 \end{array}
 \quad
 \begin{array}{l}
 p^2 - 3p - 40 \\
 (p+5)(p-8)
 \end{array}$$

$$\begin{array}{l}
 y^2 - y - 56 \\
 (y+7)(y-8)
 \end{array}$$

$G - \frac{11}{12}$
 $\frac{12}{12} - A$
 $R - \frac{12}{12}$
 $\frac{15}{12} - F$

HW p. 521 # 21-29, # 33-38

steno

Apr 28-10:22 AM

21. $(x+4)(x-1)$ 33. $(x+9y)(x-2y)$
 22. $(y-4)(y+2)$ 34. $(x+7y)(x+5y)$
 23. $(y+5)(y-4)$ 35. $(p-8q)(p-2q)$
 24. $(h+17)(h-1)$ 36. $(m-9n)(m+6n)$
 25. $(x-16)(x+2)$ 37. $(h+17j)(h+j)$
 26. $(d+10)(d-4)$ 38. $(x-13y)(x+3y)$
 27. $(m+2)(m-15)$
 28. $(p-6)(p+9)$
 29. $(p+3)(p-18)$

G	A	R	F
$\frac{47}{60}$	$\frac{53}{60}$	$\frac{53}{60}$	$\frac{62}{75}$
		$\frac{88}{82}$	$\frac{82}{82}$

Apr 29-11:38 AM

$(3x+4y^5)^2 = (a+b)^2 = (a+b)(a+b)$
 $9x^2 + 24xy^5 + 16y^{10}$
 $a^2 + ab + ab + b^2$
 $a^2 + 2ab + b^2$
 $(5y^3 - 2x^6)^2$
 $25y^6 - 20x^6y^3 + 4x^{12}$

Apr 29-11:27 AM

Factor
 a) $x^2 + 29xy + 100y^2$
 $(x+4y)(x+25y)$
 GARF
 $\frac{7}{8} \frac{9}{10}$
 $(x^6)^2$
 $x^{12} + 12x^6 + 35$
 $(x^6+5)(x^6+7)$
 b) $d^2 - 19de + 48e^2$
 $(d-3e)(d-16e)$
 GARF
 $\frac{3}{4} \frac{4}{5}$

Apr 29-11:36 AM

HW: p. 523 # 60-64
 Study sections 9.1-9.5
 due Friday

Apr 29-11:59 AM

① p. 524
 $12x^2 + 6x$
 $12x^2 = 3 \cdot 2^2 \cdot x^2$
 $6x = 3 \cdot 2 \cdot x$
 $GCF = 3 \cdot 2^1 \cdot x^1 = 6x$
 4. $x^2 + 5x + 4 = (x+1)(x+4)$
 5. $(y-7)(y+4)$
 6. $(x-5)(x-6)$
 ② $28m^2 = 2^2 \cdot 7 \cdot m^2$
 $35m = 5 \cdot 7 \cdot m$
 $14 = 2 \cdot 7$
 $GCF = 7$

May 1-9:59 AM

$ax^2 + bx + c$
 F O I L
 $6m^2 + 23m + 7$
 $1 \cdot 6$ $(0 \cdot 1) + (6 \cdot 7)$ $1 \cdot 7$
 $(6 \cdot 1) + (1 \cdot 7)$ $7 \cdot 1$
 $2 \cdot 3$ $(2 \cdot 1) + (3 \cdot 7)$ $1 \cdot 7$ ✓
 $(2m+7)(3m+1)$

May 1-10:18 AM

F O I L

$$\frac{2y^2 + 5y + 2}{1 \cdot 2 \quad (1 \cdot 1) + (2 \cdot 2) \quad 1 \cdot 2 \quad \checkmark}$$

$$(y + 2)(2y + 1)$$

QC. #1 b + c f. 524

$$\frac{6m^2 - 23m + 7}{1 \cdot 6 \quad (1 \cdot 1) + (6 \cdot 7) \quad -1 \cdot 7 \quad \text{nope!}}$$

$$\frac{(1 \cdot 7) + (6 \cdot -1) \quad -7 \cdot -1}{2 \cdot 3 \quad (2 \cdot -1) + (6 \cdot 7) \quad -1 \cdot -7 \quad \text{hey!}}$$

$$(2m - 7)(3m - 1)$$

May 1-10:23 AM

F O I L

$$20x^2 + 17x + 3$$

$$10 \cdot 2 \quad (10 \cdot 1) + (2 \cdot 3) \quad 1 \cdot 3 \quad \text{nope}$$

$$(10 \cdot 3) + (2 \cdot 1) \quad 3 \cdot 1$$

$$4 \cdot 5 \quad (4 \cdot 1) + (5 \cdot 3) \quad 1 \cdot 3$$

$$(4 \cdot 3) + (5 \cdot 1) \quad 3 \cdot 1 \quad \checkmark$$

$$(4x + 1)(5x + 3) \quad \checkmark$$

May 4-9:44 AM

F O I L

$$3m^2 - 7m - 6$$

$$3 \cdot 1 \quad (3 \cdot 2) + (1 \cdot 3) \quad -2 \cdot 3$$

$$(3 \cdot 3) + (1 \cdot 2) \quad -3 \cdot 2 \quad \checkmark$$

$$(3m + 2)(m - 3)$$

May 4-9:55 AM

$7x^2 - 30x + 27$ G A R F

F O I L

$$1 \cdot 7 \quad (1 \cdot 1) + (7 \cdot 7) \quad 1 \cdot -27$$

$$(1 \cdot -27) + (7 \cdot 1) \quad 27 \cdot -1$$

$$1 \cdot 7 \quad (1 \cdot 3) + (7 \cdot 9) \quad -3 \cdot -9$$

$$(1 \cdot -9) + (7 \cdot 3) \quad -9 \cdot -3$$

$$(x - 3)(7x - 9) \quad (7x - 9)(x - 3)$$

$$7x^2 - 9x - 21x + 27$$

May 4-10:04 AM

$8y^2 - 10y - 3$

F O I L

$$1 \cdot 8 \quad (1 \cdot 1) + (8 \cdot -3) \quad 1 \cdot -3 \quad \times$$

$$(1 \cdot -1) + (8 \cdot 3) \quad -1 \cdot 3 \quad \times$$

$$(1 \cdot -3) + (8 \cdot 1) \quad -3 \cdot 1 \quad \times$$

$$(1 \cdot 3) + (8 \cdot -1) \quad 3 \cdot -1 \quad \times$$

$$2 \cdot 4 \quad (2 \cdot 1) + (4 \cdot -3) \quad 1 \cdot -3 \quad \checkmark$$

$$(2y - 3)(4y + 1) = 8y^2 - 10y - 3$$

May 4-10:12 AM

f. 525 Ex. 3

$$20x^2 + 80x + 35$$

$$5(4x^2 + 16x + 7)$$

3a.

$$2(n - 5)(n - 1) \quad 2(n - 1)(n - 5)$$

May 4-10:16 AM

$$2x^2 - 12x + 10$$

$$2(x^2 - 6x + 5)$$

$$\begin{array}{r} 1 \cdot 5 \\ \hline -1 \cdot -5 \end{array}$$

$$2(x-1)(x-5)$$

May 4-10:23 AM

$$4y^2 + 14y + 6$$

$$2(2y^2 + 7y + 3)$$

$$\begin{array}{ccc} 2 \cdot 1 & 2 \cdot 3 & 1 \cdot 3 \\ & 6+1 & \boxed{3 \cdot 1} \end{array}$$

$$2(2y+1)(y+3) \checkmark$$

May 4-10:24 AM

Alternative Method

$$7x^2 - 26x - 8$$

$$\begin{array}{|c|c|} \hline 7x^2 & 2x \\ \hline -4 & -8 \\ \hline \end{array}$$

$$\begin{array}{cc} 7x & 2 \\ \hline 7(-8) = -56 & \\ \hline -2 \cdot 28 & \\ 2 \cdot -28 & \checkmark \end{array}$$

$$(x-4)(7x+2)$$

May 4-10:26 AM

$$49x^2 + 64x + 36$$

$$(7x+6)^2$$

$$(a+b)^2 \quad (a+b)(a+b)$$

May 5-10:06 AM

$$18x^2 - 27x + 4$$

$$\begin{array}{ccc} F & O & L \\ 1 \cdot 18 & (1 \cdot 1) + (18 \cdot 1) & -1 \cdot -4 \times \\ & (1 \cdot 4) + (18 \cdot 1) & -4 \cdot -1 \times \\ & (1 \cdot 2) + (18 \cdot 2) & -2 \cdot -2 \times \\ \hline 3 \cdot 6 & (3 \cdot 1) + (6 \cdot 4) & -1 \cdot -4 \checkmark \end{array}$$

$$(3x-4)(6x-1)$$

$$\begin{array}{r} 18x^2 - 3x - 24x + 4 \\ 18x^2 - 27x + 4 \end{array}$$

May 5-10:08 AM

$$108g^2h - 162gh + 54h$$

$$54h(2g^2 - 3g + 1)$$

$$54h(g-1)(2g-1)$$

$$\begin{array}{ccc} 108 & 162 & 54 \\ \swarrow \searrow & \swarrow \searrow & \swarrow \searrow \\ 2 \cdot 54 & 2 \cdot 81 & 2 \cdot 27 \\ \swarrow \searrow & \swarrow \searrow & \swarrow \searrow \\ 9 \cdot 6 & 9 \cdot 9 & 3 \cdot 9 \\ \swarrow \searrow & \swarrow \searrow & \swarrow \searrow \\ 3 \cdot 3 & 3 \cdot 3 & 3 \cdot 3 \\ \swarrow \searrow & \swarrow \searrow & \swarrow \searrow \\ 2^2 \cdot 3^3 \cdot g^2 \cdot h & 2 \cdot 3^4 \cdot g \cdot h & 2 \cdot 3^3 \cdot h \end{array}$$

May 5-10:15 AM

$$119.99 \times 129$$

$$(120 - 0.01)129$$

$$15480 - 1.29$$

$$\begin{array}{r} 129 \\ \times 120 \\ \hline 2580 \\ 12900 \\ \hline 15480 \end{array}$$

May 5-10:19 AM

$$(y+9)^2 \quad (2h-7)^2$$

$$y^2 + 18y + 81 \quad (2h)^2$$

$$(a+b)^2 \quad 4h^2 - 28h + 49$$

$$a^2 + 2ab + b^2$$

$$y^2 + 18y + 81$$

May 6-9:22 AM

$$41^2 \quad (30+(-1))^2$$

$$(40+1)^2 \quad (30-1)^2$$

$$1600 + 80 + 1 \quad 900 - 60 + 1$$

$$\boxed{1681} \quad \boxed{841}$$

$$5. (p^3-7)(p^3+7)$$

$$(p^3)^2 - (7^2)$$

$$\boxed{p^6 - 49}$$

$$32 \cdot 28$$

$$(30+2)(30-2)$$

$$900 - 4$$

$$\boxed{896}$$

May 6-9:27 AM

$$5. m^2 - 2mn + n^2$$

$$(m-n)(m-n)$$

$$\boxed{(m-n)^2}$$

$$1. 3x^2 - 14x + 11$$

$$\begin{array}{ccccc} F & 0 & 1 & L \\ 1 & 3 & (-1) & (3-1) & 1 \cdot 1 \\ & & (1-1) & (-1) & -1 \cdot 1 \end{array}$$

$$\boxed{(x-1)(x-11)}$$

May 6-9:31 AM

$$2. 6x^2 + 13x - 63$$

$$\begin{array}{ccccc} F & 0 & 1 & L \\ 1 & 6 & & & \\ 2 & 3 & (2 \cdot 9) + (3 \cdot 7) & -9 \cdot 7 & \times \\ & & (2 \cdot 7) + (3 \cdot 9) & -7 \cdot 9 & \checkmark \end{array}$$

$$\boxed{(2x+9)(3x-7)}$$

May 6-9:34 AM

$$9y^2 - 48y - 36$$

$$3(3y^2 - 16y - 12)$$

$$3(y-6)(3y+2)$$

May 6-9:36 AM

$y. 532$
 $45-53$ (HW)

45. $100v^2 - 25w^2$
 $25(4v^2 - w^2)$
 $25(2v-w)(2v+w)$

46. $16p^2 - 48pg + 36g^2$
 $4(4p^2 - 12pg + 9g^2)$
 $4(2p-3g)^2$ ✓

May 6-9:49 AM